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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,938	04/27/2001	Erik K. Karell	60426-218;2000P09005US01	2261

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TA, THO DAC

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2833

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/844,938	KARELL, ERIK K.	
	Examiner Tho D. Ta	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 24 June 2003.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a)  The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Romann et al. (5,584,704).

In regard to claim 1, Romann discloses a fuel injector assembly, comprising: a body portion 2 that houses fuel injector components (this feature is seen to be an inherent teaching of that device since it is apparent that some type of components must be present in the body portion 2 for the fuel injector assembly to function as intended); an electrical interface portion 10 supported by the body portion 2; and at least one deformable connector means 9 supported on the interface portion 10 (column 4, lines 13-15), the deformable connector means 9 having at least one edge for piercing and penetrating through (column 4, line 34-38) an insulation covering on an electrical conductor 5 to thereby electrically couple the electrical interface portion 10 to the electrical conductor 5 (column 4, lines 33-44).

Art Unit: 2833

In regard to claim 2, Romann discloses that the connector means includes a plurality of connector members 9, each comprising a barb of flexible metal material (column 4, line 34-38).

In regard to claim 3, Romann discloses that the electrical interface portion 10 at least partially extends outwardly and away (in a vertical direction with respect to Fig. 6) from the body portion 2 and the deformable connector member 9 is outside of the body portion 2.

In regard to claim 4, Romann discloses a fuel injector assembly, comprising: a body portion 2 that houses fuel injector components (this feature is seen to be an inherent teaching of that device since it is apparent that some type of components must be present in the body portion 2 for the fuel injector assembly to function as intended); an electrical interface portion 10 supported by the body portion 2; at least one deformable connector member 9 supported on the interface portion 10 (column 4, lines 13-15); and at least one electrical conductor 5 having an insulation covering on a conductive portion, the deformable connector member 9 having at least one edge piercing through (column 4, line 34-38) the insulation covering and making electrical contact with the electrical conductor 5 (column 4, lines 33-44).

In regard to claim 5, Romann discloses a plurality of connector members 9, each comprising a barb of flexible metal material (column 4, line 34-38).

In regard to claim 6, Romann discloses a securing member 3 placed over the conductor 5 and the connector member 9.

In regard to claim 7, Romann discloses that the securing member 3 comprises plastic that is molded over the conductor 1 and the connector member 9 (column 6, lines 25-29).

In regard to claim 8, Romann discloses that the securing member 3 comprises a seal (this feature is inherent due to the overmold).

In regard to claim 9, Romann discloses that the securing member 3 comprises a plastic material.

In regard to claim 10, Romann discloses that the conductor 5 comprises a flexible conductor cable 1.

In regard to claim 11, Romann discloses a plurality of conductors 5 and a corresponding plurality of deformable connector members 9.

In regard to claim 12, Romann discloses a method of making an electrically conductive connection between an electrical interface 10 on a fuel injector that has at

least one deformable connector member 9 and an electrical conductor 5, comprising the steps of positioning a portion of the conductor 5 near the deformable connector member 9; and deforming the deformable connector member 9 to pierce through an insulation covering on the conductor (column 4, line 34-38) and to establish an electrically conductive connection between the electrical interface 10 and the conductor 5.

In regard to claim 13, Romann discloses the step of crimping (column 4, line 34-38) the deformable member 9 onto the conductor 5.

In regard to claim 14, Romann discloses at least partially penetrating (column 4, line 34-38) the conductor 5 with a portion of the deformable connector member 9 to establish an electrically conductive coupling through the deformable connector member 9.

In regard to claim 15, Romann discloses the step of covering the deformable connector member 9 and an associated portion of the conductor 5 after performing the deforming step (column 6, lines 25-29).

In regard to claim 16, Romann discloses the step of molding a plastic material onto the connector member 9 and the associated portion of the conductor 5 (column 6, lines 25-29).

Art Unit: 2833

In regard to claim 17, Romann discloses a step of placing a seal 3 over the connector member 9 and the associated portion of the conductor 5.

In regard to claims 18, 19, Romann discloses that the plurality of connector members 9 make electrical contact with a single electrical conductor 5a-5e.

In regard to claim 20, Romann discloses that the conductor 5 comprises a flex cable.

In regard to claim 21, Romann discloses that the connector means 9 establishes a mechanical connection between the interface portion 10 and the conductor 5 (see fig. 5).

In regard to claims 22, 23, Romann discloses that the connector means 9 establishes a physical connection between the interface portion 10 and the conductor 5 (see fig. 5).

#### ***Response to Arguments***

3. Applicant's arguments filed 06/24/03 have been fully considered but they are not persuasive.

In response to applicant's argument that Romann et al. does not include any piercing of an insulating layer. First of all, Examiner had pointed out in the last office action that Romann et al. discloses "crimping" (column 4, lines 34-38) as one of the

Art Unit: 2833

permanent electrical connections between the connector pins 9 and the printed conductors 5; and applicant has not response to this rejection. Secondly, as it is well known in the electrical connector art, the term "crimping" includes the steps of piercing and penetrating through an insulation covering on an electrical conductor and the crimp tabs are bent down over the top of the contact piece, i.e., cited U.S. Patent no. 4,832,620.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho D. Ta whose telephone number is (703) 308-0800. The examiner can normally be reached on M-F (8:00-5:30).

Art Unit: 2833

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



THO D. TA  
PRIMARY EXAMINER

tdt  
September 7, 2003